

FIG 1A

AAV-1	ttgcccactccctctgcgcgctcgctcgctcggtggggcctcgccgaccaaagggtccgc	60
AAV-2	...g.....ac..a...g.gc.....gc.	60
AAV-6	...g.....ac..a...g.gc.....gc.	60
Rep binding site		
AAV-1	agacggcagagctctgcttgccggccaccgagcgagcgagcgccagagaggagtg	120
AAV-2	c....c.c.g...t...c.g.g....t..gt.....	120
AAV-6	c....c.c.g...t...c.g.g....t..gt.....	120
TRS		
AAV-1	ggcaactccatcactagggtaaTCGCGAAGCGCCTCCACGCTGCCGCGTCAGCGCTGA	180
AAV-2	.c.....-..ct.G..G-----TG.A..G-----	163
AAV-6	.c.....-..ct.G..G-----TG.A..G-----	163
E box/USF		
AAV-1	CGTAAATTACGTCATAGGG---GAGTGGCCTGTATTAGCTGTCACGTGAGTGCTTTGC	237
AAV-2	...G.....TTA.G.A.....AG.....	222
AAV-6	...G.....TTA.G.A.....AG.....	222
YY1		
P5/TATA		
AAV-1	GACATTTGCGACACCACGTGGCCATTAGGGTATATGGCCGAGTGAGCGAGCAGGAT	297
AAV-2	.....T...T..CGCT.....T..A.C.....AC.....G.	282
AAV-6	.....T...T..CGCT.....T..A.C.....AC.....G.	282
YY1/p5 RNA		
Rep 78/68		
AAV-1	CTCCATTGAC-CGCGAAATTGAACGAGCAGCAGCCATGCCGGCTTCTACGAGATCG	356
AAV-2	.....AG..G..GG.....C.....C.....G..T.....T.	342
AAV-6	.....AG..G..GG.....C.....-.....G..T.....T.	341
AAV-1	TGATCAAGGTGCCGAGCGACCTGGACGAGCACCTGCCGGCATTCGACTCGTTGTGA	416
AAV-2	....T....C..C.....T....G..T....C.....AGC.....	402
AAV-6	....T....C..C.....T....T....C.....AGC.....	401
AAV-1	GCTGGTGGCCGAGAAGGAATGGGAGCTGCCCGGATTCTGACATGGATCTGAATCTGA	476
AAV-2	A.....T....G..A.....	462
AAV-6	A.....T....G..A.....	461
AAV-1	TTGAGCAGGCACCCCTGACCGTGGCCGAGAAGCTGCAGCGCAGTCCTGGTCCAATGGC	536
AAV-2	.....T.....T....G..A..T.....A..AG..	522
AAV-6	.....T.....T....G..A.....G..	521
AAV-1	GCCCGTGAGTAAGGCCCGGAGGCCCTTTCTTGTTCAGTTGAGAAGGGCGAGTCCT	596
AAV-2	....T.....T....G..A..T.....A..AG..	582
AAV-6	.....T.....T....G..A.....A..AG..	581
AAV-1	ACTTCCACCTCCATATTCTGGTGGAGACCACGGGGTCAAATCCATGGTCTGGCCGCT	656
AAV-2	.....A.G..CG.G..C.....A.....C.....G.....TT....A..T..	642
AAV-6	.....A.....C.....G.....TT....A..T..	641
AAV-1	TCCTGAGTCAGATTAGGGACAAGCTGGTGCAGACCATCTACCGCGGGATCGAGCCGACCC	716
AAV-2	.....C.C..A..A..A.T....GA..T.....TT	702
AAV-6	.....A.....C.....G.....TT....A..T..	701
AAV-1	TGCCCAACTGGTCGCGGTGACCAAGACGCGTAATGGCGCCGGAGGGGGAAACAAGGTGG	776
AAV-2	....A.....C..A....CA.A.....C.....	762
AAV-6	.....A.....C.....G.....TT....A..T..	761

FIG 1B

AAV-1	TGGACGAGTGCTACATCCCCAACTACCTCCTGCCAAGACTCAGCCGAGCTGCAGTGGG	836
AAV-2	.....T.....T.....T.G..C.....A..C.....T.....C.....	822
AAV-6	.....	821
	P19/TATA	P19 RNA
AAV-1	CGTGGACTAACATGGAGGAGTATAAGCGCCTGTTGAACCTGGCCGAGCGCAAACGGC	896
AAV-2	.....T.....AC.....T.....C.....G..T..CA.G.....T.....T	882
AAV-6	.....C.....GG.....A.....G.....A..C..GG.C.....	881
AAV-1	TCGTGGCGCAGCACCTGACCCACGTCAAGCCAGACCCAGGAGCAGAACAGGAGAACATCTGA	956
AAV-2	.G.....T.....G.....GTCG.....G.....A.....A..	942
AAV-6	.....CG.....	941
	Rep 52/40	
AAV-1	ACCCCAATTCTGACGCGCCTGTCATCCGGTCAAAACCTCCGCGCGTACATGGAGCTGG	1016
AAV-2	.T.....T.....G..G..A.A.....T..A..CA.G.....	1002
AAV-6	.....	1001
AAV-1	TCGGGTGGCTGGTGGACCGGGGCATCACCTCCGAGAACAGCAGTGGATCCAGGAGGACCAGG	1076
AAV-2	.....C.....AA..G..T.....G.....	1062
AAV-6	.....	1061
AAV-1	CCTCGTACATCTCCTTCAACGCCGCTTCAACTCGCGTCCCAGATCAAGGCCGCTCTGG	1136
AAV-2	....A.....,..T..G..C.....,.....A.....T..CT...	1122
AAV-6	.....	1121
AAV-1	ACAATGCCGGCAAGATCATGGCGCTGACCAAATCCGCGCCCGACTACCTGGTAGGCCCG	1196
AAV-2	.....G..A.....T..AGC.....T..A..C..,.....,.....G..AGC	1182
AAV-6	.....	1181
AAV-1	CTCCGCCCGGGACATTAAAACCAACCGCATCTACCGCATCCTGGAGCTGAACGGCTACG	1256
AAV-2	AG..CGT.G.A.....TCC.G..T..G..T..TAA..TT..A..A.....G....	1242
AAV-6	.....C.....T.....	1241
AAV-1	AACCTGCCTACGCCGGCTCCGTCTTCTCGGCTGGGCCAGAAAAGGTTGGGAAGCGCA	1316
AAV-2	.T..CCAA..T..G..CT.....G..A.....AC.....A.....C..A.G..	1302
AAV-6	..C.....	1301
AAV-1	ACACCATCTGGCTGTTGGCCGGCCACCACGGCAAGACCAACATCGCGGAAGCCATCG	1376
AAV-2	.....T..A..T..C..G.....G.....A..	1362
AAV-6	.....	1361
AAV-1	CCCACGCCGTGCCCTTCTACGGCTGCGTCAACTGGACCAATGAGAACATTCCCTTAATG	1436
AAV-2	....A.T.....G.....A.....	1422
AAV-6	.....	1421
AAV-1	ATTGCGTCGACAAGATGGTATCTGGTGGGAGGGCAAGATGACGGCCAAGGTCGTGG	1496
AAV-2	.C..T.....G.....C.....	1482
AAV-6	.....	1481
AAV-1	AGTCCGCCAAGGCCATTCTCGCGGCAGCAAGGTGCGCGTGGACCAAAAGTCAAGTCGT	1556
AAV-2	....G.....A.....A..A.....G..A.....C..	1542
AAV-6	.....	1541
AAV-1	CCGCCAGATCGACCCACCCCGTATCGTCACCTCAACACCAACATGTGCGCCGTGA	1616
AAV-2	.G.....A.....G..T.....	1602
AAV-6	.....T.....	1601

FIG 1C

AAV-1	TTGACGGAACAGCACCACTTCGAGCACAGCAGCCGTTGCAGGACCGGATGTTCAAAT	1676
AAV-2	.....TCA..G.....A.....A.....A.....	1662
AAV-6	.....	1661
AAV-1	TTGAACTCACCCGCCGTCTGGAGCATGACTTGGCAAGGTGACAAAGCAGGAAGTCAAAG	1740
AAV-2	.....T.....G.....C..C.....	1722
AAV-6	.....	1721
AAV-1	AGTTCTCCGCTGGCGCAGGATCACGTGACCGAGGTGGCGCATGAGTTCTACGTCAAGA	1796
AAV-2	.C..T.....G.....AA.....GTT.....A.....A.....A..	1782
AAV-6	.....	1781
P40/TATA		
AAV-1	AGGGTGGAGCCAACAAAAGACCCGCCCCGATGACGCGGATAAAAGCGAGGCCAAGCGGG	1856
AAV-2	.....G.....AG.....A....T....T.....A....	1842
AAV-6	.....G.....	1841
P40 RNA		
AAV-1	CCTGCCCTCAGTCGCGGATCCATCGACGTAGACGCGGAAGGAGCTCCGGTGGACTTTG	1916
AAV-2	TGC..GAG.....T...C.G.....T...T..A.CA...AC..	1899
AAV-6	.....	1901
▼		
AAV-1	CCGACAGGTACCAAAACAAATGTTCTCGTCACGCGGGCATGCTTCAGATGCTGTTCCCT	1976
AAV-2	.A.....T.....AA..T.....	1959
AAV-6	.....	1961
AAV-1	GCAAGACATGCGAGAGAATGAATCAGAACATTCAACATTGCTTCACGCACGGGACGAGAG	2036
AAV-2	...GACA.....CA..T..C.....T.....ACA..A..	2019
AAV-6	....A.....C.....	2021
AAV-1	ACTGTTCAGAGTGCTTCCCCGGCGTGTCAAGAACCTCAACCGGTCTGAGAAAGAGGA	2093
AAV-2	.....T.....T...C..TTCT...GTC..A..A..G	2076
AAV-6	.....A..T.....	2078
AAV-1	CGTATCGGAAACTCTGTGCCATTCATCTGCTGGGGCGGGCTCCGAGATTGCTTGCT	2153
AAV-2	.....A.....G..CTA.....A.CA...AAA..TG..A...C.....A	2133
AAV-6	.....	2138
Rep 78 stop		
AAV-1	CGGCCTGCGATCTGGTCAACGTGGACCTGGATGACTGTGTTCTGAGCAATAATGACTT	2213
AAV-2	.T.....T.....CA.C.T..A.....T..	2193
AAV-6	.....T.....	2193
▼ VP1 ▼ Rep 68 stop		
AAV-1	AAACCAGGTATGGCTGCCATGGTTATCTTCCAGATTGGCTCGAGGACAACCTCTGAG	2273
AAV-2	...T.....T.....CA.....A.....T.....	2253
AAV-6	.....	2258
AAV-1	GGCATTGCGAGTGGTGGACTTGAAACCTGGAGCCCCGAAGCCAAAGCCAACCAGCAA	2333
AAV-2	..A..AA.AC.....A.GC.C.....CC.A..ACCA..A..GC..GCAG..GG	2313
AAV-6	.....A.....	2318
AAV-1	AAGCAGGACGACGGCCGGGTCTGGTGCTTCTGGCTACAAGTACCTCGGACCCCTCAAC	2393
AAV-2	C.TA.....A..A.....T.....G.....	2373
AAV-6	.....G..C.....G.....C.....	2378

FIG 1D

AAV-1	GGACTCGACAAGGGGAGCCGTCAACGCGGGACGCAGCGCCCTCGAGCACGACAAG	2453
AAV-2	.....A.....G.....A.....A.....C.....A	2433
AAV-6	.....T.....	2438
AAV-1	GCCTACGACCAGCAGCTCAAAGCGGGTACAATCCGTACCTGCGGTATAACCACGCCGAC	2513
AAV-2	.....G.....G.CAGC..A.....C.....CAA..C.....	2493
AAV-6	.....A.AGCG..T.....T.....GCG..T.....	2498
AAV-1	GCCGAGTTTCAGGAGCGTCTGCAAGAAGATACTCTTGGGGCAACCTCGGGGAGCA	2573
AAV-2	..G.....C..TA.....	2553
AAV-6	..C.....T..GC.....	2558
AAV-1	GTCTTCAGGCCAAGAAGCGGGTTCTGAACCTCTCGGTCTGGTGAGGAAGGCGCTAAG	2633
AAV-2	.....G..A...A.....T.....G..C.....CCT..T....	2613
AAV-6	.....A.....T..T.....T.....	2618
VP2		
AAV-1	ACGGCTCCTGGAAAGAAACGTCCGGTAGAGCAGTCGCCACAAGAGCCAGACTCCTCCTCG	2693
AAV-2	.....G.....A..GA.G.....C..T..TGTG.....	2673
AAV-6	.....T.....G..AC.T.....G..G..ACAA.....	2678
AAV-1	GGCATCGGCAAGACAGGCCAGCAGCCCCGCTAAAAAGAGACTCAATTGGTCAGACTGGC	2753
AAV-2	..A.C...A...G.G.....T..A.G...A...T.G.....A	2733
AAV-6	.....T.....	2738
AAV-1	GACTCAGAGTCAGTCCCCGATCCACAAACCTCTCGGAGAACCTCCAGCAACCCCCGCTGCT	2813
AAV-2	...G....C....A..T..C..C..G.....C.G..A.....G....T..G..	2793
AAV-6	...T....G....C..C..C..A..A.....G.A..T.....A.....G.....	2798
VP3		
AAV-1	GTGGGACCTACTACAATGGCTTCAGGCGGTGGCGCACCAATGGCAGACAATAACGAAGGC	2873
AAV-2	C.....A...A...G.....A.....A.....	2853
AAV-6	.....	2858
AAV-1	GCCGACGGAGTGGTAATGCCTCAGGAAATTGGCATTGCGATTCCACATGGCTGGCGAC	2933
AAV-2	.....T...C.....	2913
AAV-6	.....	2918
AAV-1	AGAGTCATCACCACAGCACCCGACCTGGCCTGCCACCTACAATAACCACCTCTAC	2993
AAV-2	.....A.....C.....C.....	2973
AAV-6	.....A..A.....T..C.....	2978
AAV-1	AAGCAAATCTCCAGTGCTTCAACGGGGGCCAGCAACGACAACCACTACTCGGCTACAGC	3053
AAV-2	..A.....T.....CAA.....A..TCG.....T.....T.....	3030
AAV-6	.....	3038
AAV-1	ACCCCCTGGGGTATTTGATTCAACAGATTCCACTGCCACTTTCACCACTGACTGG	3113
AAV-2	.....T.....C.....	3090
AAV-6	.....T..C.....	3098
AAV-1	CAGCGACTCATACAACAATTGGGGATTCCGGCCAAAGAGACTCAACTCAAACCTCTTC	3173
AAV-2	..AA.....C.....A.....G.....T	3150
AAV-6	.....	3158
AAV-1	AACATCCAAGTCAAGGAGGTACGACGAATGATGGCGTCACAACCACGCTAATAACCTT	3233
AAV-2	.....T.....A.....CA.....C..TACG..G..G..T..C.....	3210
AAV-6	.....G.....	3218

FIG 1E

AAV-1	ACCAGCACGGTTCAAGTCTTCGGACTCGGAGTACCAAGCTTCCGTACGTCCCTCGGCTCT	3293
AAV-2	.....G..G..TA.T.....C.....G	3270
AAV-6	.....T.G.....	3278
AAV-1	GCGCACCAAGGGCTGCCTCCCTCCGTTCCCGGGACGTGTTCATGATTCCGCAATACGGC	3353
AAV-2	.....T..A..A.....G.....A..A.....C.....G.G..A..G..T..A	3330
AAV-6	.....G.....	3338
AAV-1	TACCTGACGCTAACAAATGGCAGCCAAGCCGTGGGACGTTCATCCTTTACTGCCTGGAA	3413
AAV-2	.....C..C..G.....C..G..T..A..A..A.....C..T..A.....G	3390
AAV-6	.....A.....G..A.....G.....	3398
AAV-1	TATTTCCCTTCTCAGATGCTGAGAACGGGAAACAACCTTACCTTCAGCTACACCTTGAG	3473
AAV-2	..C..T.....C.T..C..A.....T.....T.....C..	3450
AAV-6	.....A..G.....T.....C..	3458
AAV-1	GAAGTGCCTTCCACAGCAGCTACGCGCACAGCCAGAGCCTGGACCGGCTGATGAATCCT	3533
AAV-2	..C..T.....T.....T.....T..C.....	3510
AAV-6	..C.....	3498
AAV-1	CTCATCGACCAATACCTGTATTACCTGAACAGAACTCAAATCAGTCCGGAAGTGCCCAA	3593
AAV-2	.....G.....T..G.....AA..C..C..CAAGT...CCA..ACG	3570
AAV-6	.....G.....G.....	3578
AAV-1	AACAAGGACTTGCTGTTAGCCGTGGGTCTCCAGCTGGCATGTCTGTTAGCCCCAAAAC	3653
AAV-2	C..GTCAAGGC..T..A...TCT..AG..CCGGAG..GAG..A..TCGG..AC...T..T..GG..	3630
AAV-6	.....G.....	3638
AAV-1	TGGCTACCTGGACCCCTGTTATCGGCAGCAGCGCGTTCTAAAACAAAAACAGACAACAAAC	3713
AAV-2	.....T.....C..C.....A..A..CA..G...TCTG..G..T.....	3690
AAV-6	.....C.....	3698
AAV-1	AACAGCAATTACCTGGACTGGTGCTTCAAAATATAACCTCAATGGCGTGAATCCATC	3773
AAV-2	.....TG..A..ACT..G.....A..A..C..G..CC.....CA..A..C..TC..G	3750
AAV-6	.....C.....T.....T..A..	3758
AAV-1	ATCAACCTGGCACTGCTATGGCCTCACACAAAGACGACGAAGACAAGTTCTTCCATG	3833
AAV-2	G..G..T..G..GC..C..C.....AAGC.....G.....T.....A.....T.....TCA..	3810
AAV-6	.....A.....	3818
AAV-1	AGCGGTGTCATGATTTGGAAAAGAGAGCGCCGGAGCTTCAAACACTGCATTGGACAAT	3893
AAV-2	.....G..TC..C..C.....G..GC..AG..T..A..AGAAA...TGTGAACA..T..A..G	3870
AAV-6	.....G.....	3878
AAV-1	GTCATGATTACAGACGAAGAGGAAATTAAAGCCACTAACCTGTGGCCACCGAAAGATT	3953
AAV-2	.....CGG..A..A..C..T..C.....T..G..GCAG..A..	3930
AAV-6	.....C.....C.....C.....	3938
AAV-1	GGGACCGTGGCAGTCAATTCCAGAGCAGCACAGACCCCTGCGACCGGAGATGTGCAT	4013
AAV-2	..TT..T..AT..TAC..CC.....AG..A..G..C..AG..A..T..C.....CA..C	3990
AAV-6	.....T.....C.....	3998
AAV-1	GCTATGGGAGCATTACCTGGCATGGTGTGGCAAGATAGAGACGTGTACCTGCAGGGTCCC	4073
AAV-2	A..ACAA..C..TTC..T..A.....C.....G..C.....T.....T..G..	4050
AAV-6	T.....C.....A.....C.....A.....T	4058

FIG 1F

AAV-1	ATTTGGGCCAAATTCTCACACAGATGGACACTTCACCCGCTCCTCTTATGGCGGC	4133
AAV-2	..C.....A..G.....A.....G..C.....T.....C.....C..C.....T..A	4110
AAV-6	.....G.....G.....C.....C.....G.....C.....C.....	4118
AAV-1	TTTGGACTCAAGAACCCGCCTCCTCAGATCCTCATCAAAAACACGCCTGTTCTGCGAAT	4193
AAV-2	..C.....T..AC....T.....A.....T.....G.....C..G..A.....	4170
AAV-6	.....T..C.....	4178
AAV-1	CCTCCGGCGGAGTTTCAGCTACAAAGTTGCTTCATTCCATCACCAAAACTCCACAGGA	4253
AAV-2	..T..A.CACC..CAGT..GG.....C.....A..G.....G..	4230
AAV-6	.....A.....G.....G..T.....	4238
AAV-1	CA-AGTGAGTGTGGAAATTGAATGGGAGCTGCAGAAAGAAAACAGCAAGCGCTGGAATCC	4312
AAV-2	..CG..C..C.....G..C..G.....G.....A.....	4290
AAV-6	.....C.....G.....A.....	4297
AAV-1	CGAAGTGCAGTACACATCCAATTATGCCAA-CTGCCAA-CGTTGATTTACTGTGGACA	4371
AAV-2	....A.T.....T.....C..CAAC..G.....TT..T..G..C.....C.....T..	4350
AAV-6	.....T.....T..C.....-.....C.....	4356
AAV-1	ACAATGGACTTTACTGAGCCTGCCCATGGCACCCGTTACCTTACCCGTCCCTGT	4431
AAV-2	CT.....CG..G...T..A.....A.A.....G..T..AAT....	4410
AAV-6	.....C.....	4416
VP1-3 stop PolyA signal		
AAV-1	AATTACGTGTTAATCAATAAACCGGTTGATTGTTCAAGTTGAACCTTGGTCTCCTGTCC	4491
AAV-2	....G.T.....T..A.....	4470
AAV-6	....GT.....A.....G.....A....G	4476
AAV-1	TTCTTATCTTATC-GGTTACCATGGTTAT-AGCTTACACATTA--ACTGCTTGGTGC	4547
AAV-2	..TC..T.....TA..T.....C..CGTAGA..AGT..GC..TGG..G..G..AA..CATTA	4530
AAV-6	..A.....T..C.....A..CA..C-C..G.....--.....A.....	4533
AAV-1	TTCGCGATAAAAGACTTACGTACGGttacccctagtgatggagttggccactccctc	4607
AAV-2	ACTA..A..gg..a-----g.....	4570
AAV-6	.....at-----	4572
AAV-1	tctgcgcgctcgctcgctcggtggggccggcagagcagagctctgccgtctgcggacctt	4667
AAV-2	..c.....ac..a.....gc..c..a..g..gc..a..gc..c..gg..	4630
AAV-6	..a.....g.....	4632
AAV-1	tggccgcaggccccaccgagcgagcgagcgagcagagaggagtgccaa	4718
AAV-2	..cc..g..gc....t..gt.....c...	4681
AAV-6	.....t.....	4683

AAV-1 TR

FIG 2

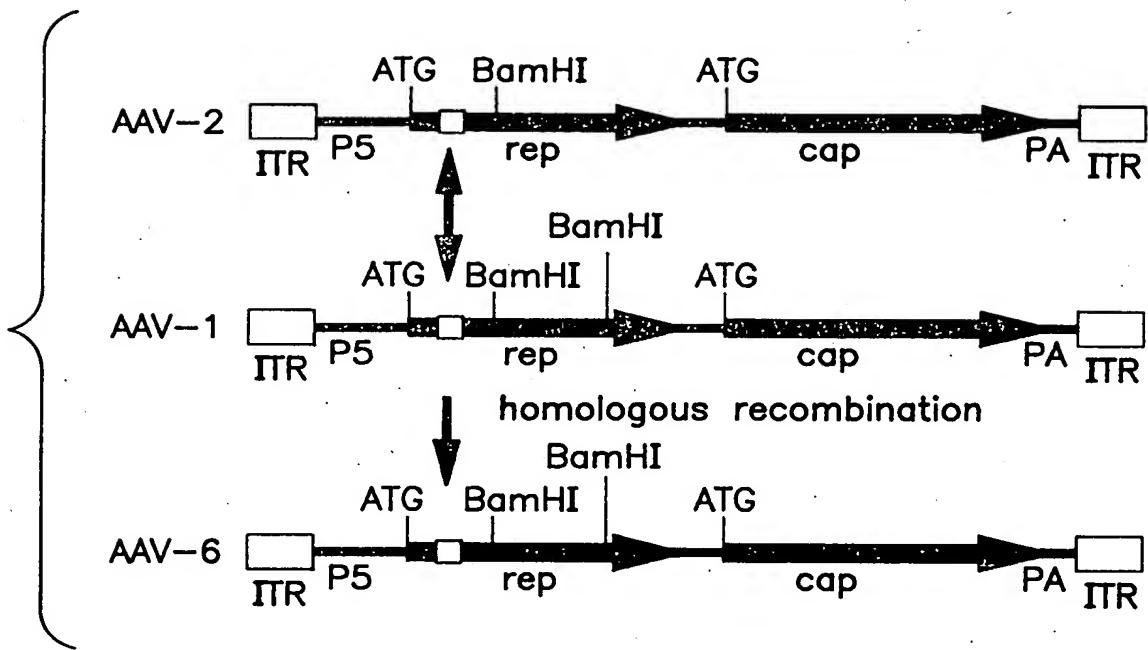


FIG. 3A

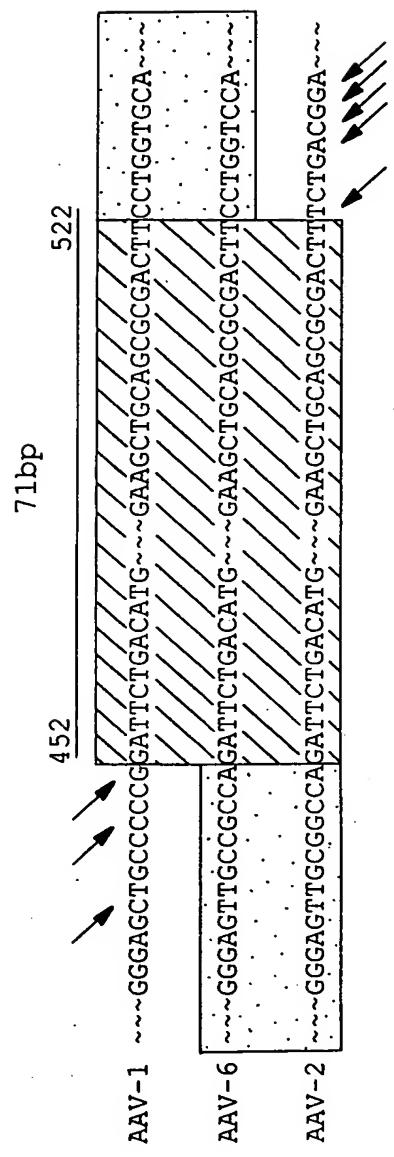


FIG. 3B

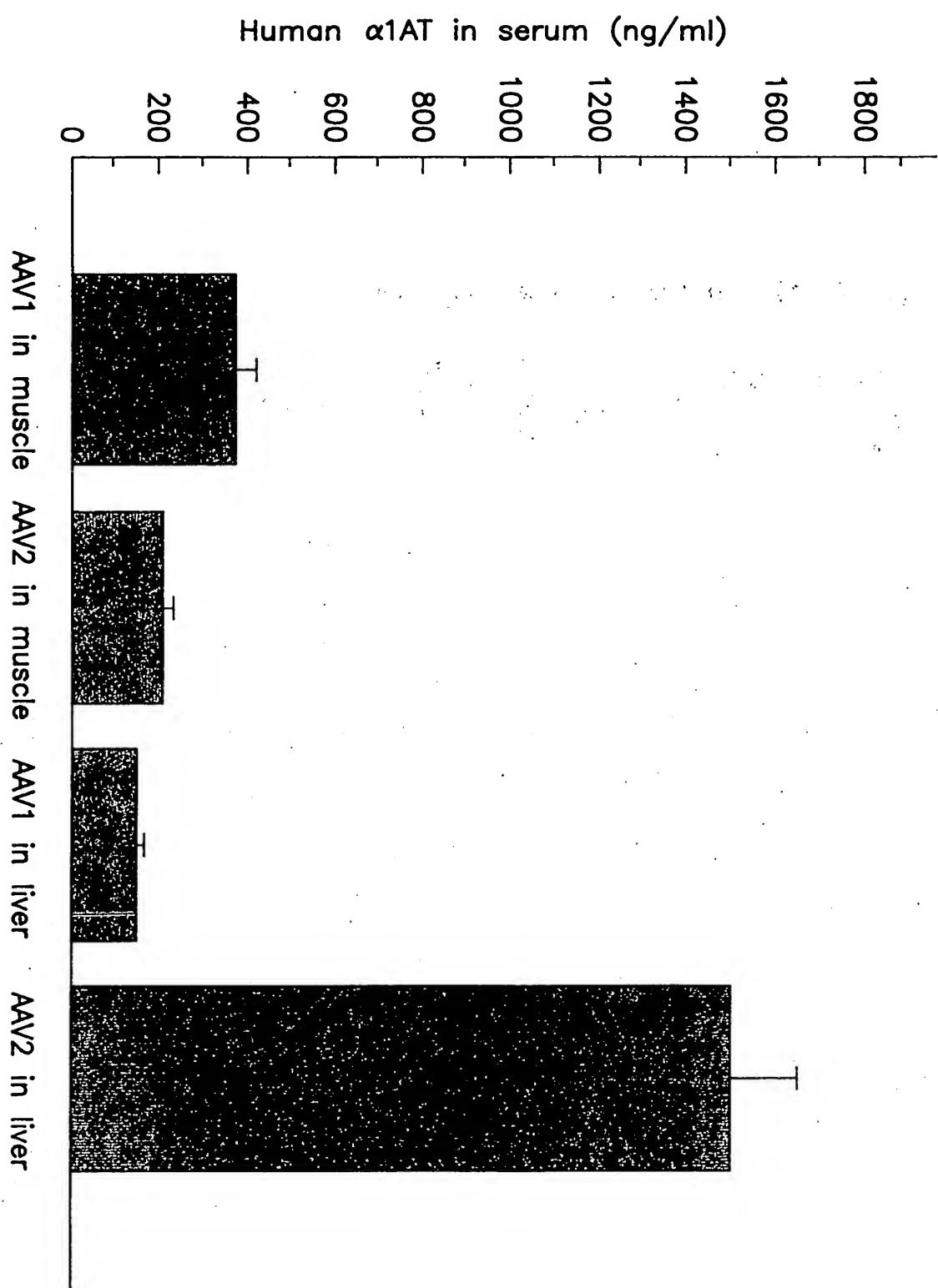


FIG. 4A

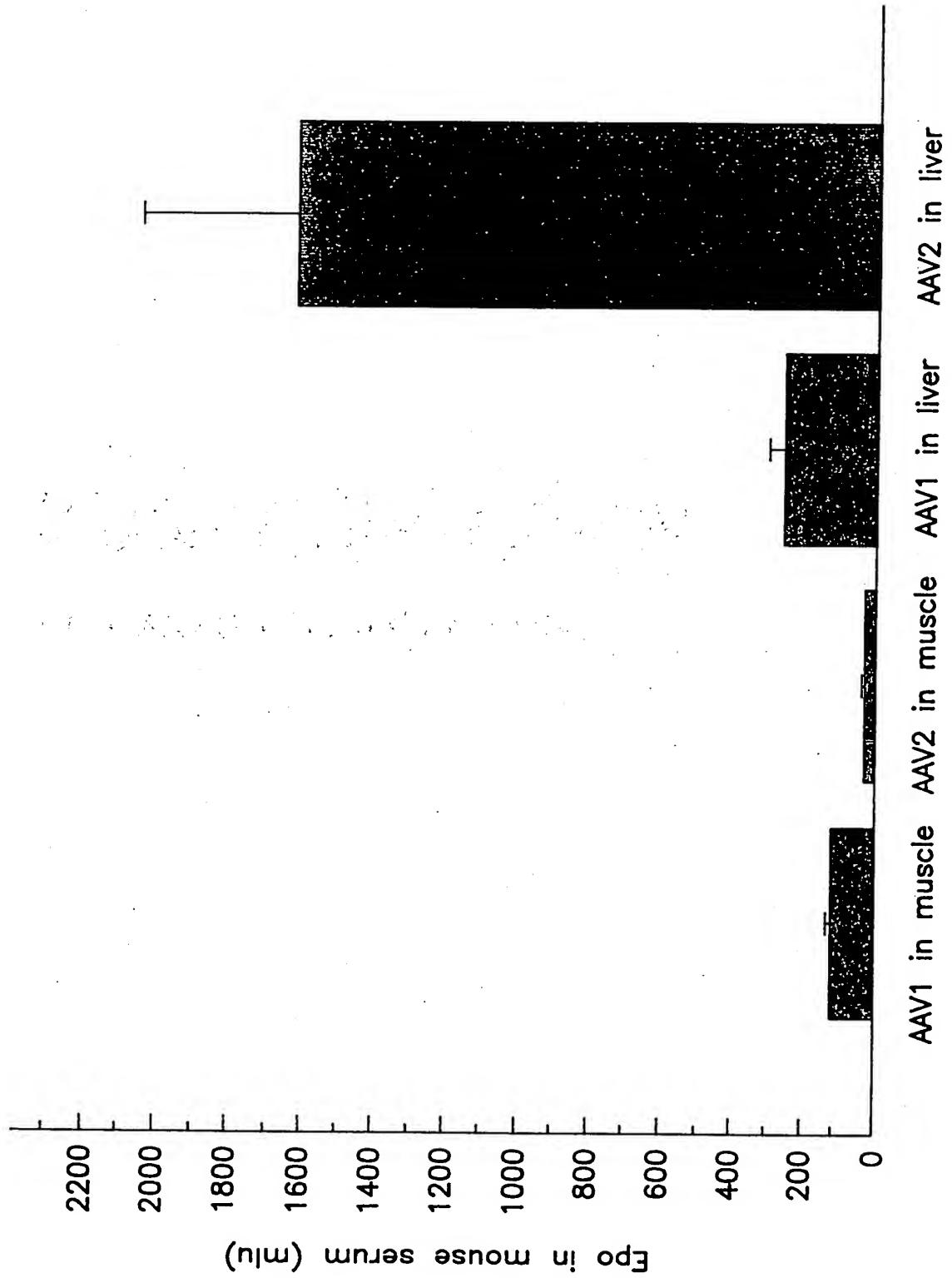


FIG. 4B

FIG. 5A

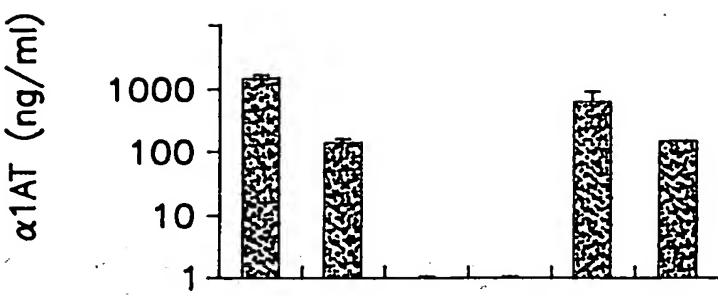


FIG. 5B



FIG. 5C

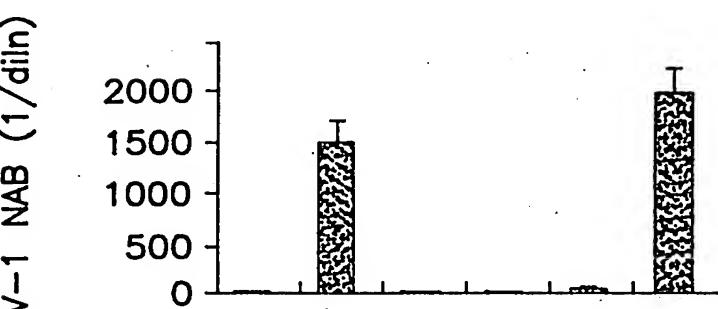
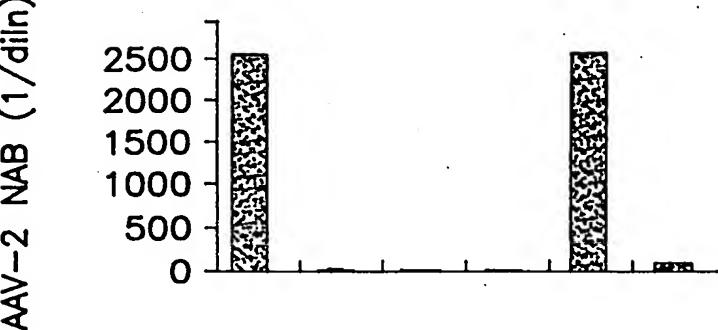


FIG. 5D



Group	1	2	3	4	5	6
Vector1- $\alpha 1AT$	AAV2	AAV1	PBS	PBS	AAV2	AAV1
Vector2-EPO	AAV2	AAV1	AAV2	AAV1	AAV1	AAV2

FIG. 6A

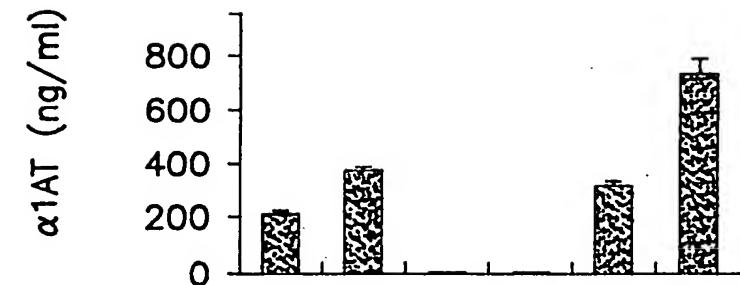


FIG. 6B

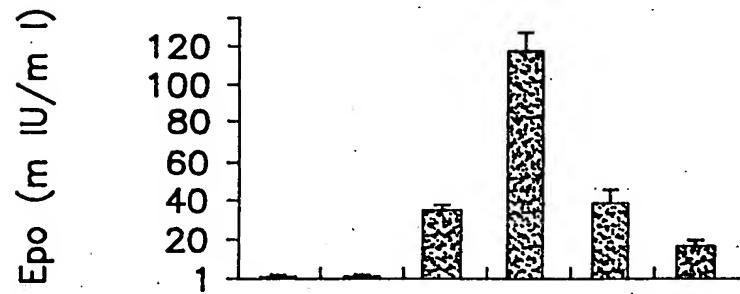


FIG. 6C

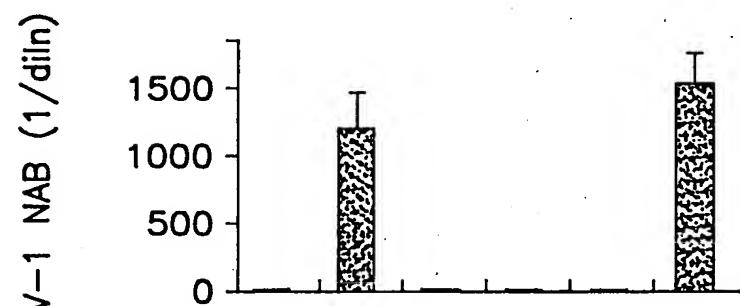
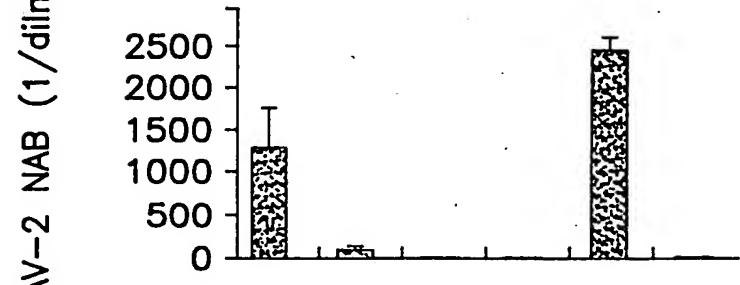


FIG. 6D



Group	1	2	3	4	5	6
Vector1 - $\alpha 1AT$	AAV2	AAV1	PBS	PBS	AAV2	AAV1
Vector2-EPO	AAV2	AAV1	AAV2	AAV1	AAV1	AAV2